

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: MCCUTCHEON POND	Lake Area (ha):	3.52
Town: DORCHESTER	Maximum depth (m):	9.5
County: Grafton	Mean depth (m):	2.5
River Basin: Merrimack	Volume (m ³):	88500
Latitude: 43°49'25" N	Relative depth:	4.5
Longitude: 71°59'53" W	Shore configuration:	1.23
Elevation (ft): 1978	Areal water load (m/yr):	6.44
Shore length (m): 820	Flushing rate (yr ⁻¹):	2.60
Watershed area (ha): 32.2	P retention coeff.:	0.61
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

11 February 1997

19 August 1996

DOM. PHYTOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	MOUGEOTIA 80%
	#2		DINOBYRON 8%
	#3		ASTERIONELLA 5%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			1.26
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA>99%	KERATELLA 78%
	#2	(ZOOPLANKTON SPARSE)	NAUPLIUS LARVA 7%
	#3	(ONLY KERATELLA OBSERVED)	
ROTIFERS/LITER		8	156
MICROCRUSTACEA/LITER		<1	23
ZOOPLANKTON ABUNDANCE (#/L)		8	184
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			5.2
BOTTOM DISSOLVED OXYGEN (mg/L)		0.2	0.0
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 5.5
Hypolimnion volume (m³): 2000
Anoxic volume (m³): 2150

CHEMICAL:

Lake: MCCUTCHEON POND

Town: DORCHESTER

	11 February 1997		19 August 1996		
DEPTH (m)	3.0	6.0	1.0	5.0	8.0
pH (units)	5.2	5.2	5.3	5.0	5.6
A.N.C. (Alkalinity)	0.4	1.6	0.5	0.1	3.1
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.45	0.59	0.20	0.19	0.67
TOTAL PHOSPHORUS	0.006	0.089	0.005	0.006	0.023
CONDUCTIVITY (μ mhos/cm)	19.0	20.7	15.9	17.0	22.8
APPARENT COLOR (cpu)	25	25	10	15	40
MAGNESIUM			0.17		
CALCIUM			< 1.0		
SODIUM			< 1.0		
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	3	3	3		3
TN : TP	75	7	40		29
CALCITE SATURATION INDEX					

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1996

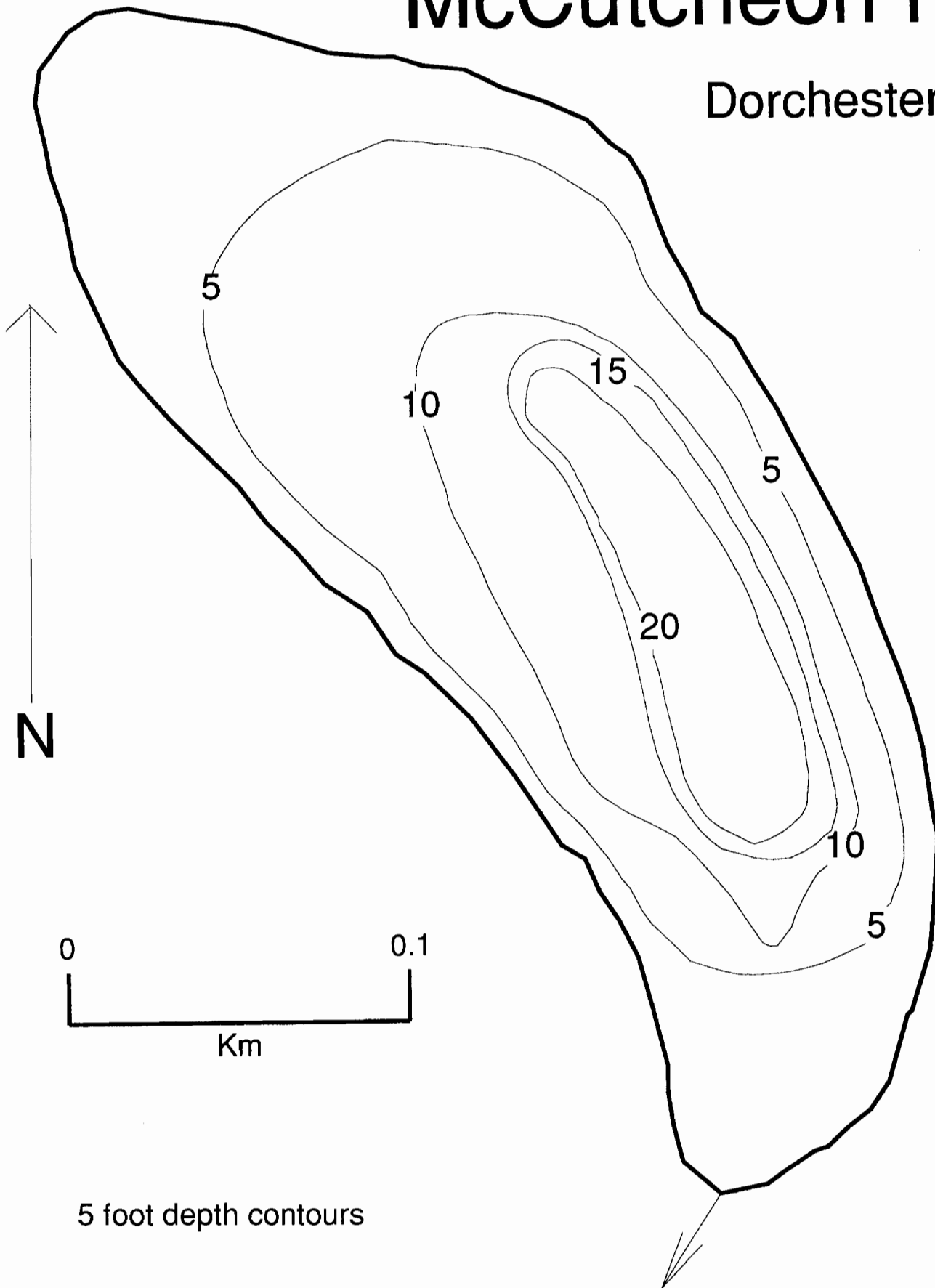
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	1	0	0	5	Oligo.

COMMENTS:

1. This is a clear water, remote, acid pond with almost no buffering capacity (A.N.C.) and very low ion levels.
2. Phosphorus levels and algal and macrophytic growth were low; most of the trophic points were due to the dissolved oxygen depletion in the bottom waters. Bottom oxygen levels were also low under the ice.

McCutcheon Pond

Dorchester

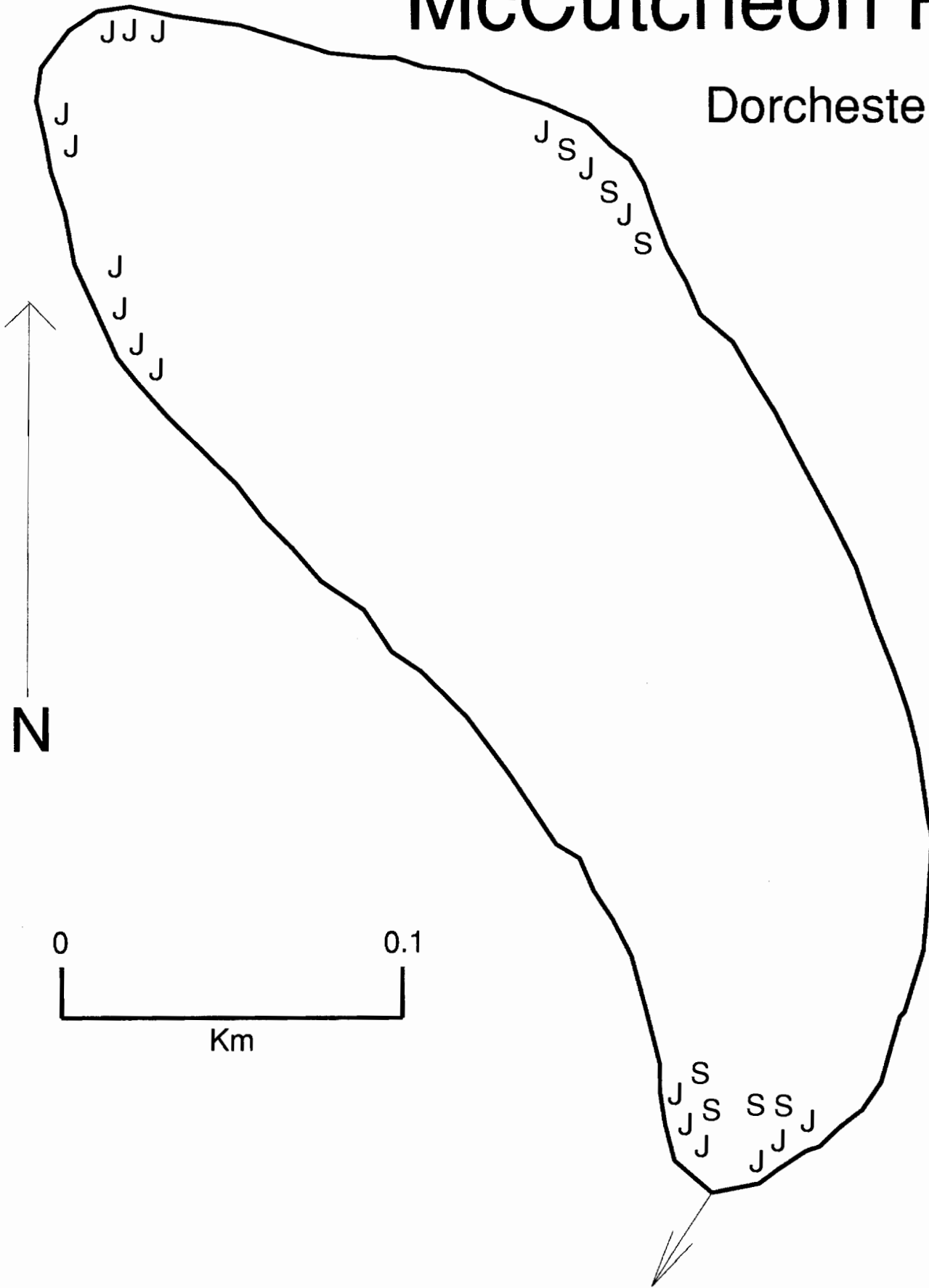


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McCutcheon Pond

Dorchester



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